

A ~~B~~
19. (AMENDED) The geometry unit of Claim 16, wherein [said primitive is a polygon] said outcode value indicates whether said vertex is visible with respect to each plane of said view volume.

29. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein only vertices which are visible in all said planes are rasterized.

30. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein said clipping is implemented prior to any lighting, fog, or texture calculations.

31. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein said primitive is a triangle.

A3
32. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein said view volume is a frustum.

33. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein there are six or more planes in said view volume.

34. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein said clipping uses the Sutherland and Hodgman polygon clipping algorithm.

35. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein vertex visibility in each of said planes is indicated by a bit flag.

43
Cont. 10
5

36. (AMENDED) [The pipelined graphics system of Claim 28,] A pipelined graphics system, comprising:

a transformation unit connected to:

transform a primitive into a clipping space, and

assign a fixed barycentric coordinate to each vertex of said primitive; and

a geometry unit connected to:

perform clip testing on said primitives,

clip said primitives, if necessary, according to said fixed barycentric coordinates, and

set an outcode value for each said vertex indicating whether it is visible with respect to each plane of a view volume.

wherein two circular buffers are used to store said input and output polygons.

37. (AMENDED) The pipelined graphics system of Claim [28,] 36, wherein said circular buffer has a maximum storage of sixteen vertices.

39. (AMENDED) The computer system of Claim [38,] 43, wherein said clipping is implemented prior to any lighting, fog, or texture calculations.

40. (AMENDED) The computer system of Claim [38,] 43, wherein said primitive is a triangle.

41. (AMENDED) The computer system of Claim [38,] 43, wherein said clipping uses the Sutherland and Hodgman polygon clipping algorithm.

42. (AMENDED) The computer system of Claim [38,] 43, wherein vertex visibility in each of said planes is indicated by a bit flag.

43. (AMENDED) [The computer system of Claim 38,] A computer system comprising:

display hardware;

a processor connected to provide graphics data

5 a geometry and lighting accelerator connected to receive said graphics data, comprising

a transformation unit connected to:

transform a primitive into a clipping space, and

assign a fixed barycentric coordinate to each vertex
10 of said primitive; and

a geometry unit connected to:

perform clip testing on said primitives,

clip said primitives, if necessary, according to said
15 fixed barycentric coordinates,

set an outcode value for each said vertex indicating
whether it is visible with respect to each
plane of a view volume, and

output clipped graphics data to be rendered; and

video rendering hardware connected to receive said clipped
20 graphics data, generate graphics, and connected to
display said graphics on said display hardware;

wherein two circular buffers are used to store said input and
output polygons.

44. (AMENDED) The method of Claim [38,] 43, wherein said video rendering hardware is a GLINT 500TX.

*A4
Co. 27*

45. (AMENDED) The method of Claim [38,] 43, wherein said video rendering hardware is a GLINT PERMEDIA.

46. (AMENDED) The method of Claim [38,] 43, wherein said processor is an X86-compatible processor.

Please cancel Claims 28 and 38 without prejudice.